

CLAIMS:

1. A magnetic resonance imaging (MRI) system comprising an examination volume, a main magnet system for generating a magnetic field having a main field portion with a substantially constant magnetic field strength in the examination volume, a gradient magnet system for generating gradients of the main field portion, and a damping member
5 which is mounted to a part of the MRI system susceptible to vibrations relative to the magnetic field during operation, said damping member comprising an electrically conductive member which is present in the magnetic field and in which eddy currents are generated as a result of said vibrations, characterized in that the conductive member is arranged in a secondary portion of the magnetic field at a distance from the main field portion, the
10 secondary portion having a magnetic field strength which differs by more than 25% from the magnetic field strength of the main field portion.
2. An MRI system as claimed in claim 1, characterized in that the magnetic field strength of the secondary portion differs by more than 50% from the magnetic field strength
15 of the main field portion.
3. An MRI system as claimed in claim 1, characterized in that the conductive member is arranged in a stray field portion of the magnetic field.
- 20 4. An MRI system as claimed in claim 1, characterized in that the conductive member is mounted to the gradient magnet system.
5. An MRI system as claimed in claim 4, characterized in that the main magnet system comprises a first substantially rotationally symmetrical portion and a second
25 substantially rotationally symmetrical portion at a distance from the first portion, wherein the examination volume is present between the first and the second portion, and wherein the gradient magnet system comprises a first and a second portion arranged, respectively, in a central cavity of the first portion of the main magnet system and in a central cavity of the second portion of the main magnet system, a first and a second conductive member being

mounted, respectively, to the first portion of the gradient magnet system and to the second portion of the gradient magnet system and being arranged, respectively, in a portion of the central cavity of the first portion of the main magnet system remote from the examination volume and in a portion of the central cavity of the second portion of the main magnet system remote from the examination volume.

6. An MRI system as claimed in claim 5, characterized in that the first and the second conductive member each comprise a substantially circular cylindrical metal plate which is concentrically arranged relative to, respectively, the first portion of the main magnet system and the second portion of the main magnet system.

7. An MRI system as claimed in claim 5, characterized in that the first and the second conductive member each comprise a closed conductive metal winding having winding portions extending substantially parallel to a central axis of, respectively, the first portion of the main magnet system and the second portion of the main magnet system.

8. An MRI system as claimed in claim 1, characterized in that the conductive member is mounted to a housing of the main magnet system.

9. An MRI system as claimed in claim 8, characterized in that the main magnet system and the gradient magnet system are substantially circular cylindrical, wherein the gradient magnet system surrounds the examination volume and the main magnet system surrounds the gradient magnet system, the conductive member being mounted to an annular end wall of the housing of the main magnet system.

10. An MRI system as claimed in claim 8, characterized in that the main magnet system and the gradient magnet system are substantially circular cylindrical, wherein the gradient magnet system surrounds the examination volume and the main magnet system surrounds the gradient magnet system, the conductive member being mounted to a portion of a cylindrical outer wall of the housing of the main magnet system adjacent to an annular end wall of said housing.

11. An MRI system as claimed in claim 8, characterized in that the conductive member is mounted to a support member which supports the housing of the main magnet

system.

12. An MRI system is claimed in claim 8, characterized in that the conductive member comprises a substantially flat metal plate.